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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,207	10/29/2003	Mark J. Gallina	ITL.0998US (P16010)	7392
21906 7590 10/16/2007 TROP PRUNER & HU, PC 1616 S. VOSS ROAD, SUITE 750 HOUSTON, TX 77057-2631			EXAMINER WILKINS III, HARRY D	
			ART UNIT 1795	PAPER NUMBER
			MAIL DATE 10/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/696,207

Applicant(s)

GALLINA, MARK J.

Examiner

Harry D. Wilkins, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 21-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/29/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's remarks regarding the election of species is found persuasive, and the election of species requirement is hereby withdrawn. It should be noted that the previously set forth reason for insisting on the different species was incorrect. The purported second species did not permit for the base to contact the spring members since the spring members were part of the frame.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Brogden et al (US 5,227,041).

Brogden et al anticipate the invention as claimed.

Brogden et al teach (see figures 2-4) more than one spring electrical contact (36) to contact a first surface of an object, the first surface of the object to have a material electroplated thereon, and a base (40) to directly support the first surface of the object without being directly connected to the spring electrical contacts (36), the base (40) distributing the force to seal a second surface of the object.

Regarding claim 2, the base was an o-ring, which would have inherently been made of a soft, acid resistant material, such as rubber.

Regarding claim 3, the base (40) of Brogden et al is spaced inward from the contacts (36).

Regarding claim 4, the contacts (36) were connected to a frame (unnumbered) structure to which the contacts (36) stick out from.

Regarding claim 5, the contacts (36) of Brogden et al appear to be resilient beams that terminate with tips.

Regarding claim 7, the base (40) and the frame (unnumbered) are annular in shape.

Regarding claim 8, the base and frame would have inherently been made of or coated with an acid resistant material to prevent corrosion in the acidic electroplating bath.

Regarding claim 9, the o-ring base (40) continuously contacts the first surface.

Regarding claim 10, each spring electrical contact (36) was able to independently deflect while electrical contact is made with the object.

Regarding claim 11, Brogden et al teach (as above) a frame (unnumbered) having spring electrical contacts to electrically contact a first surface of an object to enable electroplating on the object's first surface, a base (40) to directly support said object, said base and frame not directly connected and a sealing ring (44) to seal a second surface of the object to prepare for electrodeposition.

Regarding claim 12, although not shown, the system for electroplating would have inherently included a plating cell to contain the electrolyte.

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Regarding claim 13, electroplating necessarily entails a counter-electrode to enable the electrolytic reaction.

Regarding claim 14, electroplating necessarily entails a power supply for driving the electrolytic reaction.

Regarding claim 15, the structure of Brogden et al included a thrust plate (50) and a seal plate (32).

Regarding claim 16, the base (40) of Brogden et al included an annular aperture (35).

Regarding claim 17, the base (40) distributed the force required to seal the second surface of the object.

Regarding claims 18 and 19, Brogden et al teach (see col. 1, lines 5-10) electroplating of metal onto a wafer surface. Copper is the most conventionally utilized metal for deposition by electroplating onto semiconductor wafers.

Regarding claim 20, the spring electrical contacts would apply a variable force depending upon how much the thrust plate (50) is pressed downward, and that force would necessarily be less than the force required to break the object so that the structure did not break objects when they were put into the device.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brogden et al (US 5,227,041) in view of Jorne et al (US 6,132,587).

The teachings of Brogden et al are described above.

Borgden et al teaches including the tips of the spring electrical contacts (36) were placed outward from the base (40).

However, Jorne et al teach (see abstract, figure 2 and col. 6, lines 25-49) the advantage of using an array of electrical contacts across the front face of a wafer to improve plating uniformity.

Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated the teachings of Jorne et al into the device of Brogden et al and included spring electrical contacts attached to the part (32) which is not the base (40) to contact the first surface of the object at a location inward from the base.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Harry O. Wilkins, III  
Primary Examiner  
Art Unit 1795

hdw